



PUBLIC NOTICE BILLING INFORMATION FORM

I hereby authorize the Department of Environmental Quality to have the cost of publishing a public notice billed to the Agent/Department shown below. The public notice will be published once a week for two consecutive weeks in accordance with 9 VAC 25-31-290.C.2:

Agent/Department to be billed: Town of Pembroke

Owner: Town of Pembroke

Applicant's Address: 500 Snidow Street

Pembroke, VA 24136

Attn: Mary Kay Carroway

Agent's Telephone No: 540-626-7191

Authorizing Agent: 

Signature

Dana Munsey
Printed Name

Mayor
Title

Facility Name: Pembroke Wastewater Treatment Plant

Permit No.: VA0088048

Please return to:

Becky L. France
Department of Environmental Quality
3019 Peters Creek Road
Roanoke, VA 24019
Fax No. (540) 562-6860



FACILITY NAME AND PERMIT NUMBER:

Pembroke STP VA0088048

Form Approved 1/14/99
OMB Number 2040-0086

FORM
2A
NPDES

NPDES FORM 2A APPLICATION OVERVIEW

APPLICATION OVERVIEW

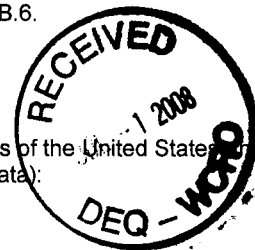
Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

- A. **Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.
- B. **Additional Application Information for Applicants with a Design Flow ≥ 0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.
- C. **Certification.** All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

- D. **Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):
 - 1. Has a design flow rate greater than or equal to 1 mgd,
 - 2. Is required to have a pretreatment program (or has one in place), or
 - 3. Is otherwise required by the permitting authority to provide the information.
- E. **Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):
 - 1. Has a design flow rate greater than or equal to 1 mgd,
 - 2. Is required to have a pretreatment program (or has one in place), or
 - 3. Is otherwise required by the permitting authority to submit results of toxicity testing.
- F. **Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:
 - 1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
 - 2. Any other industrial user that:
 - a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
 - b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
 - c. Is designated as an SIU by the control authority.
- G. **Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).



ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

FACILITY NAME AND PERMIT NUMBER:

Pembroke STP VA0088048

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A.1. Facility Information.

Facility name Pembroke STPMailing Address PO Box 5
Pembroke, VA 24136Contact person ~~Wes Skene~~ Stanley LucasTitle Chief OperatorTelephone number (540) 628-7607Facility Address 126 Park Lane
(not P.O. Box) Pembroke, VA 24136

A.2. Applicant Information. If the applicant is different from the above, provide the following:

Applicant name Town of PembrokeMailing Address PO Box 5
Pembroke, VA 24136Contact person Dana MunseyTitle MayorTelephone number (540) 626-7191

Is the applicant the owner or operator (or both) of the treatment works?



owner



operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.



facility

☐ applicant

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A.3. Existing Environmental Permits. Provide the permit number of any existing environmental permits that have been issued to the treatment works (Include state-issued permits).

NPDES VA0088048

PSD _____

UIC _____

Other _____

RCRA _____

Other _____

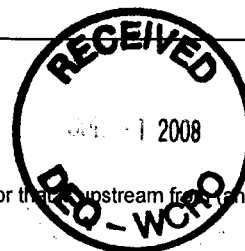
A.4. Collection System Information. Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served	Type of Collection System	Ownership
<u>Pembroke, VA</u>	<u>1,184</u>	<u>separate</u>	<u>municipal</u>
_____	_____	_____	_____
_____	_____	_____	_____

Total population served 1,184

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A.5. Indian Country.

- a. Is the treatment works located in Indian Country?

☐ Yes ☒ No

- b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from and eventually flows through Indian Country?

☐ Yes ☒ No

A.6. Flow. Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

- a. Design flow rate
- 0.20
- mgd

	<u>Two Years Ago</u>	<u>Last Year</u>	<u>This Year</u>
b. Annual average daily flow rate	<u>0.07</u>	<u>0.07</u>	<u>0.06</u> mgd
c. Maximum daily flow rate	<u>0.09</u>	<u>0.12</u>	<u>0.08</u> mgd

A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

<input checked="" type="checkbox"/> Separate sanitary sewer	<u>100.00</u> %
<input type="checkbox"/> Combined storm and sanitary sewer	<u> </u> %

A.8. Discharges and Other Disposal Methods.

- a. Does the treatment works discharge effluent to waters of the U.S.?
- ☒
- Yes
- ☐
- No

If yes, list how many of each of the following types of discharge points the treatment works uses:

i. Discharges of treated effluent	<u>1</u>
ii. Discharges of untreated or partially treated effluent	<u> </u>
iii. Combined sewer overflow points	<u> </u>
iv. Constructed emergency overflows (prior to the headworks)	<u> </u>
v. Other	<u> </u>

- b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.?
- ☐
- Yes
- ☒
- No

If yes, provide the following for each surface impoundment:

Location:

Annual average daily volume discharged to surface impoundment(s) mgd

Is discharge continuous or intermittent?

- c. Does the treatment works land-apply treated wastewater?
- ☐
- Yes
- ☒
- No

If yes, provide the following for each land application site:

Location:

Number of acres:

Annual average daily volume applied to site: Mgd

Is land application continuous or intermittent?

- d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works?
- ☐
- Yes
- ☒
- No

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If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

If transport is by a party other than the applicant, provide:

Transporter name: _____

Mailing Address: _____

Contact person: _____

Title: _____

Telephone number: _____



For each treatment works that receives this discharge, provide the following:

Name: _____

Mailing Address: _____

Contact person: _____

Title: _____

Telephone number: _____

If known, provide the NPDES permit number of the treatment works that receives this discharge. _____

Provide the average daily flow rate from the treatment works into the receiving facility. _____

mgd

- e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)?

_____ Yes

_____ ☒ No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

Annual daily volume disposed of by this method: _____

Is disposal through this method _____

continuous or

_____ intermittent?

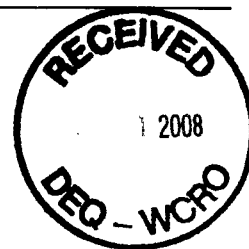
Pembroke STP VA0088048

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

- a. Outfall number 001
- b. Location Pembroke 24136
(City or town, if applicable) (Zip Code)
Giles Virginia
(County) (State)
80° 38' 34" N 37° 18' 51" W
(Latitude) (Longitude)
- c. Distance from shore (if applicable) _____ 12.00 ft.
- d. Depth below surface (if applicable) _____ 5.00 ft.
- e. Average daily flow rate _____ 0.07 mgd
- f. Does this outfall have either an intermittent or a periodic discharge?
_____ Yes ☒ No (go to A.9.g.)
- If yes, provide the following information:
- Number of times per year discharge occurs: _____
- Average duration of each discharge: _____
- Average flow per discharge: _____ mgd
- Months in which discharge occurs: _____
- g. Is outfall equipped with a diffuser? _____ Yes ☒ No
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A.10. Description of Receiving Waters.

- a. Name of receiving water New River
- b. Name of watershed (if known) Middle New
- United States Soil Conservation Service 14-digit watershed code (if known): _____
- c. Name of State Management/River Basin (if known): _____
- United States Geological Survey 8-digit hydrologic cataloging unit code (if known): 05050002
- d. Critical low flow of receiving stream (if applicable):
acute _____ cfs chronic _____ cfs
- e. Total hardness of receiving stream at critical low flow (if applicable): _____ mg/l of CaCO₃

FACILITY NAME AND PERMIT NUMBER:

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A.11. Description of Treatment.

a. What levels of treatment are provided? Check all that apply.

☐ Primary
 ☒ Secondary
☐ Advanced
 ☐ Other. Describe: _____

b. Indicate the following removal rates (as applicable):

Design BOD₅ removal or Design CBOD₅ removal _____ %
 Design SS removal _____ %
 Design P removal _____ %
 Design N removal _____ %
 Other _____ %

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

Ultraviolet

If disinfection is by chlorination, is dechlorination used for this outfall?

☐ Yes ☐ No

d. Does the treatment plant have post aeration?

☒ Yes ☐ No


A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

 Outfall number: 001

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.20	s.u.			
pH (Maximum)	8.20	s.u.			
Flow Rate	0.21	mgd	0.07	mgd	52.00
Temperature (Winter)	NOT MONITORED				
Temperature (Summer)	NOT MONITORED				

* For pH please report a minimum and a maximum daily value

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		

CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.

BIOCHEMICAL OXYGEN DEMAND (Report one)	BOD-5	26.30		14.70		52.00	sm-18 5210B	2.0
	CBOD-5							
FECAL COLIFORM		97.00		16.00	col/100mL		EPA 10029	PQL=1 col/100mL
TOTAL SUSPENDED SOLIDS (TSS)		26.00		10.00		52.00	sm-18 2540D	

END OF PART A.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Pembroke STP VA0088048

Form Approved 1/14/99
OMB Number 2040-0086**BASIC APPLICATION INFORMATION****PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).**All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).**B.1. Inflow and Infiltration.** Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

_____ 0.00 gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

_____**B.2. Topographic Map.** Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.) **ATTACHMENT A**

- The area surrounding the treatment plant, including all unit processes.
- The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
- Each well where wastewater from the treatment plant is injected underground.
- Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
- Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.
- If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g., chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.**ATTACHMENT B****B.4. Operation/Maintenance Performed by Contractor(s).**Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ____ Yes ☒ No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: _____

Mailing Address: _____

Telephone Number: _____

Responsibilities of Contractor: _____

B.5. Scheduled Improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

- List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

- Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

____ Yes ____ No

FACILITY NAME AND PERMIT NUMBER:

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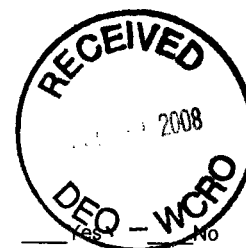
- c If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

- d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule MM / DD / YYYY	Actual Completion MM / DD / YYYY
- Begin construction	___/___/___	___/___/___
- End construction	___/___/___	___/___/___
- Begin discharge	___/___/___	___/___/___
- Attain operational level	___/___/___	___/___/___

- e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained?

Describe briefly:


B.6. EFFLUENT TESTING DATA (GREATER THAN 0.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number:

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)							
CHLORINE (TOTAL RESIDUAL, TRC)	PERMIT DOES NOT REQUIRE TESTING OF THESE PARAMETERS						
DISSOLVED OXYGEN							
TOTAL KJELDAHL NITROGEN (TKN)							
NITRATE PLUS NITRITE NITROGEN							
OIL and GREASE							
PHOSPHORUS (Total)							
TOTAL DISSOLVED SOLIDS (TDS)							
OTHER							

END OF PART B.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

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BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:



Basic Application Information packet

Supplemental Application Information packet:

_____ Part D (Expanded Effluent Testing Data)

_____ Part E (Toxicity Testing: Biomonitoring Data)

_____ Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

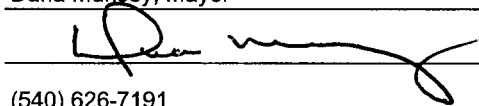
_____ Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title Dana Munsey, Mayor

Signature



Telephone number (540) 626-7191

Date signed _____

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:



VPDES PERMIT APPLICATION ADDENDUM - SUPPLEMENTARY INFORMATION

A. General Information

1. Entity to whom the permit is to be issued: Town of Pembroke
Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner.
2. Classify the discharge as one of the following by checking the appropriate line:

 X a. Existing discharge

 b. Proposed discharge

 c. Proposed expansion of an existing discharge

B. Location

1. Is this facility located within city or town boundaries? (Y)/ N
2. (New Issuances & Modifications Only) What is the tax map parcel number for the land where this facility is located?
3. For the facility to be covered by this permit, how many acres will be disturbed during the next five years due to new construction activities? 0
4. What is the total acreage of the property on which the treatment plant is located? 5 acres
5. Give the minimum elevation of the treatment plant site. 1635 feet
6. Flood elevations of the treatment plant sue:
 25 year flood 1615 feet
 100 year flood 1630 feet
7. Attach to the back of this application a location map(s) which may be traced from or is/are a production of a U.S. Geological Survey topographic quadrangle(s) or other appropriately scaled contour map(s). The location map(s) shall show the following:
 - a. Treatment Plant
 - b. Discharge point
 - c. Receiving waters
 - d. Boundaries of the property on which the treatment plant is located, or to be located.
 - e. Distance from the treatment plant to the nearest: (Indicate "not applicable" for any distance greater than 2000 feet)
 - i. Residence
 - ii. Distribution line for potable water supply
 - iii. Reservoir, well, or other source of water supply
 - iv. Recreational area
 - f. Distance from the discharge point to the nearest: (Indicate "not applicable" for any distance greater than 15 miles)
 - i. Downstream community
 - ii. Upstream and downstream water intake points
 - iii. Shellfishing waters
 - iv. Wetlands area
 - v. Downstream impoundment
 - vi. Downstream recreational area

See Attachment A

C. Discharge Description

1. Provide a brief description of the wastewater treatment scheme. Also, attach to the back of this application, a process flow diagram showing each process unit of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system.

See Attachment B

2. What is the design average flow of this facility? 0.20 MGD
Industrial facilities: What is the max. 30-day avg. production level (include units)? _____

3. In addition to the above design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels? Y / ☒ N

If 'Yes', please specify the other flow tiers in MGD) or production levels: _____
Please consider: Is your facility's design flow considerably greater than your current flow? Do you plan to expand operations during the next five years?

4. Nature of operations generating wastewater:

100% of flow from domestic connections/sources

Number of private residences to be served by the wastewater treatment facilities:

0 1-49 ☒ 50 or more

0 % of flow from non-domestic connections/sources

5. Mode of discharge: ☒ Continuous ☐ Intermittent ☐ Seasonal
Describe frequency and duration of intermittent or seasonal discharges:

6. Identify the characteristics of the receiving stream at the point just above the facility's discharge point:

☒ Permanent stream, never dry
☐ Intermittent stream, usually flowing, sometimes dry
☐ Ephemeral stream, wet-weather flow, often dry
☐ Effluent-dependent stream, usually or always dry
☐ Lake or pond at or below the discharge point
☐ Other: _____

E. Anticipated Phasing Schedule for Plant Capacity - Proposed / Expanding Discharges

If this application is for a proposed or expanded discharge(s), complete the phasing schedule below beginning with the year in which construction completion is anticipated and progressing in increments of 5 years for 30 years thereafter.

Proposed Design Capacity: _____ MGD

Anticipated Date of Construction Completion: _____
Month Year

Years after Completion	Projected Flow (MOD)
------------------------	----------------------

0	
5	
10	
15	
20	
25	
30	

F. Interim Facilities

Are the wastewater treatment facilities interim? (designed for a useful life of less than 5 years) Yes / ☒ No

If so, provide the estimated date to be discontinued (month, year) _____, and the name and location of the intended replacement facility.

Name / Location

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

SCREENING INFORMATION

This application is divided into four sections. Section A pertains to all applicants. The applicability of Sections B, C and D depends on your facility's sewage sludge use or disposal practices. The information provided on this page will help you determine which sections to fill out.

1. All applicants must complete Section A (General Information).

2. Does this facility generate sewage sludge? ☒ Yes ☐ No

Does this facility derive a material from sewage sludge? ☐ Yes ☒ No

If you answered "Yes" to either, complete Section B (Generation Of Sewage Sludge or Preparation Of A Material Derived From Sewage Sludge).

3. Does this facility apply sewage sludge to the land? ☐ Yes ☒ No

Is sewage sludge from this facility applied to the land? ☐ Yes ☒ No

If you answer "No" to all above, skip Section C.

If you answered "Yes" to either, answer the following three questions:

a. Does the sewage sludge from this facility meet the ceiling concentrations, pollutant concentrations, Class A pathogen reduction requirements and one of the vector attraction reduction requirements 1-8, as identified in the instructions?
☐ Yes ☐ No

b. Is sewage sludge from this facility placed in a bag or other container for sale or give-away for application to the land?
☐ Yes ☐ No

c. Is sewage sludge from this facility sent to another facility for treatment or blending? ☐ Yes ☐ No

If you answered "No" to all three, complete Section C (Land Application Of Bulk Sewage Sludge).

If you answered "Yes" to a, b or c, skip Section C.

4. Do you own or operate a surface disposal site? ☐ Yes ☒ No

If "Yes", complete Section D (Surface Disposal).

SECTION A. GENERAL INFORMATION

*All applicants must complete this section.***1. Facility Information.**

- a. Facility name: Pembroke STP
- b. Contact person: Stanley Lucas
Title: Public Works Director
Phone: (540) 626-7607
- c. Mailing address:
Street or P.O. Box: P.O. Box 5
City or Town: Pembroke State: VA Zip: 24136
- d. Facility location:
Street or Route #: 126 Park Lane
County: Giles
City or Town: Pembroke State: VA Zip: 24136
- e. Is this facility a Class I sludge management facility? ☐ Yes ☒ No
- f. Facility design flow rate: 0.20 mgd
- g. Total population served: 1,184
- h. Indicate the type of facility:
☒ Publicly owned treatment works (POTW)
☐ Privately owned treatment works
☐ Federally owned treatment works
☐ Blending or treatment operation
☐ Surface disposal site
☐ Other (describe): _____

2. Applicant Information. If the applicant is different from the above, provide the following:

- a. Applicant name: Town of Pembroke
- b. Mailing address:
Street or P.O. Box: P.O. Box 5
City or Town: Pembroke State: VA Zip: 24136
- c. Contact person: Dana Munsey
Title: Mayor
Phone: (540) 626-7191
- d. Is the applicant the owner or operator (or both) of this facility?
☒ owner ☒ operator
- e. Should correspondence regarding this permit be directed to the facility or the applicant?
☒ facility ☐ applicant

3. Permit Information.

- a. Facility's VPDES permit number (if applicable): VA0088048
- b. List on this form or an attachment, all other federal, state or local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices:
Permit Number: _____ Type of Permit: _____

FACILITY NAME: Pembroke STP

VPDES PERMIT NUMBER: VA0088048

4. **Indian Country.** Does any generation, treatment, storage, application to land or disposal of sewage sludge from this facility occur in Indian Country? ____ Yes ___X___ No If "Yes", describe:

5. **Topographic Map.** Provide a topographic map or maps (or other appropriate maps if a topographic map is unavailable) that shows the following information. Maps should include the area one mile beyond all property boundaries of the facility: **SEE ATTACHMENT A**

- Location of all sewage sludge management facilities, including locations where sewage sludge is generated, stored, treated, or disposed.
- Location of all wells, springs, and other surface water bodies listed in public records or otherwise known to the applicant within 1/4 mile of the property boundaries.

6. **Line Drawing.** Provide a line drawing and/or a narrative description that identifies all sewage sludge processes that will be employed during the term of the permit including all processes used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each unit, and all methods used for pathogen reduction and vector attraction reduction. **SEE ATTACHMENT B**

7. **Contractor Information.** Are any operational or maintenance aspects of this facility related to sewage sludge generation, treatment, use or disposal the responsibility of a contractor? ____ Yes ___X___ No

If "Yes", provide the following for each contractor (attach additional pages if necessary).

Name: _____

Mailing address:

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

Phone: (_____) _____

Contractor's Federal, State or Local Permit Number(s) applicable to this facility's sewage sludge:

If the contractor is responsible for the use and/or disposal of the sewage sludge, provide a description of the service to be provided to the applicant and the respective obligations of the applicant and the contractor(s).

8. **Pollutant Concentrations.** Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants which limits in sewage sludge have been established in 9 VAC 25-31-10 et seq. for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	SAMPLE DATE	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
Arsenic				
Cadmium				
Chromium				
Copper				
Lead				
Mercury				
Molybdenum				
Nickel				
Selenium				
Zinc				

FACILITY NAME: Pembroke STP

VPDES PERMIT NUMBER: VA0088048

9. **Certification.** Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of the application you have completed and are submitting:

X Section A (General Information)

X Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)

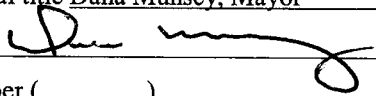
Section C (Land Application of Bulk Sewage Sludge)

Section D (Surface Disposal)

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name and official title Dana Munsey, Mayor

Signature



Date Signed

6/30/08

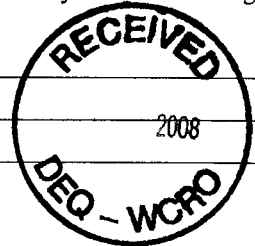
Telephone number ()

Upon request of the department, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.



**SECTION B. GENERATION OF SEWAGE SLUDGE OR PREPARATION
OF A MATERIAL DERIVED FROM SEWAGE SLUDGE***Complete this section if your facility generates sewage sludge or derives a material from sewage sludge***1. Amount Generated On Site.**Total dry metric tons per 365-day period generated at your facility: 120 dry metric tons**2. Amount Received from Off Site.** If your facility receives sewage sludge from another facility for treatment, use or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary.

- a. Facility name: _____
- b. Contact Person: _____
Title: _____
Phone: (_____) _____
- c. Mailing address: _____
Street or P.O. Box: _____
City or Town: _____ State: _____ Zip: _____
- d. Facility location: _____
(not P.O. Box) _____
- e. Total dry metric tons per 365-day period received from this facility: _____ dry metric tons
- f. Describe, on this form or on another sheet of paper, any treatment processes known to occur at the off-site facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics:

**3. Treatment Provided at Your Facility.**

- a. Which class of pathogen reduction is achieved for the sewage sludge at your facility?
____ Class A ____ Class B X Neither or unknown
- b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge: _____

- c. Which vector attraction reduction option is met for the sewage sludge at your facility?
X Option 1 (Minimum 38 percent reduction in volatile solids)
____ Option 2 (Anaerobic process, with bench-scale demonstration)
____ Option 3 (Aerobic process, with bench-scale demonstration)
____ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
____ Option 5 (Aerobic processes plus raised temperature)
____ Option 6 (Raise pH to 12 and retain at 11.5)
____ Option 7 (75 percent solids with no unstabilized solids)
____ Option 8 (90 percent solids with unstabilized solids)
____ None or unknown
- d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge: aerobic digestion

- e. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities, including blending, not identified in a - d above: _____

4. Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements and One of Vector Attraction Reduction Options 1-8 (EQ Sludge).

(If sewage sludge from your facility does not meet all of these criteria, skip Question 4.)

- a. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land:

_____ dry metric tons

- b. Is sewage sludge subject to this section placed in bags or other containers for sale or give-away?

_____ Yes _____ No

5. Sale or Give-Away in a Bag or Other Container for Application to the Land.

(Complete this question if you place sewage sludge in a bag or other container for sale or give-away prior to land application. Skip this question if sewage sludge is covered in Question 4.)

- a. Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility for sale or give-away for application to the land: _____ dry metric tons
- b. Attach, with this application, a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.

6. Shipment Off Site for Treatment or Blending.

(Complete this question if sewage sludge from your facility is sent to another facility that provides treatment or blending. This question does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this question if the sewage sludge is covered in Questions 4 or 5. If you send sewage sludge to more than one facility, attach additional sheets as necessary.)

- a. Receiving facility name: _____

- b. Facility contact: _____

Title: _____

Phone: (_____) _____

- c. Mailing address:

Street or P.O. Box: _____

City or Town: _____ State: _____ Zip: _____

- d. Total dry metric tons per 365-day period of sewage sludge provided to receiving facility:

_____ dry metric tons

- e. List, on this form or an attachment, the receiving facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the receiving facility's sewage sludge use or disposal practices:

Permit Number: _____ Type of Permit: _____

- f. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility?

_____ Yes _____ No

Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?

_____ Class A _____ Class B _____ Neither or unknown

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge: _____

- g. Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge? _____ Yes _____ No

Which vector attraction reduction option is met for the sewage sludge at the receiving facility?

_____ Option 1 (Minimum 38 percent reduction in volatile solids)

_____ Option 2 (Anaerobic process, with bench-scale demonstration)

- ☐ Option 3 (Aerobic process, with bench-scale demonstration)
☐ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
☐ Option 5 (Aerobic processes plus raised temperature)
☐ Option 6 (Raise pH to 12 and retain at 11.5)
☐ Option 7 (75 percent solids with no unstabilized solids)
☐ Option 8 (90 percent solids with unstabilized solids)
☐ None unknown

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge: _____

- h. Does the receiving facility provide any additional treatment or blending not identified in f or g above?
☐ Yes ☐ No

If "Yes", describe, on this form or another sheet of paper, the treatment processes not identified in f or g above: _____

- i. If you answered "Yes" to f, g or h above, attach a copy of any information you provide to the receiving facility to comply with the "notice and necessary information" requirement of 9 VAC 25-31-530.G.
j. Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? ☐ Yes ☐ No

If "Yes", provide a copy of all labels or notices that accompany the product being sold or given away.

- k. Will the sewage sludge be transported to the receiving facility in a truck-mounted watertight tank normally used for such purposes? ☐ Yes ☐ No. If "No", provide description and specification on the vehicle used to transport the sewage sludge to the receiving facility.

Show the haul route(s) on a location map or briefly describe the haul route below and indicate the days of the week and the times of the day sewage sludge will be transported. _____

7. Land Application of Bulk Sewage Sludge.

(Complete Question 7.a if sewage sludge from your facility is applied to the land, unless the sewage sludge is covered in Questions 4, 5 or 6. Complete Question 7.b, c & d only if you are responsible for land application of sewage sludge.)

- a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites:

_____ dry metric tons

- b. Do you identify all land application sites in Section C of this application? ☐ Yes ☐ No

If "No", submit a copy of the Land Application Plan (LAP) with this application (LAP should be prepared in accordance with the instructions).

- c. Are any land application sites located in States other than Virginia? ☐ Yes ☐ No

If "Yes", describe, on this form or on another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.

- d. Attach a copy of any information you provide to the owner or lease holder of the land application sites to comply with the "notice and necessary" information requirement of 9 VAC 25-31-530 F and/or H (Examples may be obtained in Appendix IV).

8. Surface Disposal.

(Complete Question 8 if sewage sludge from your facility is placed on a surface disposal site.)

- a. Total dry metric tons per 365-day period of sewage sludge from your facility placed on all surface disposal sites: _____ dry metric tons
- b. Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?
_____ Yes _____ No
- If "No", answer questions c - g for each surface disposal site that you do not own or operate. If you send sewage sludge to more than one surface disposal site, attach additional pages as necessary.
- c. Site name or number: _____
- d. Contact person: _____
Title: _____
Phone: (_____) _____
Contact is: _____ Site Owner _____ Site operator
- e. Mailing address:
Street or P.O. Box: _____
City or Town: _____ State: _____ Zip: _____
- f. Total dry metric tons per 365-day period of sewage sludge from your facility placed on this surface disposal site: _____ dry metric tons
- g. List, on this form or an attachment, the surface disposal site VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the sewage sludge use or disposal practices at the surface disposal site:
- | | |
|----------------|-----------------|
| Permit Number: | Type of Permit: |
| _____ | _____ |
| _____ | _____ |

9. Incineration.

(Complete Question 9 if sewage sludge from your facility is fired in a sewage sludge incinerator.)

- a. Total dry metric tons per 365-day period of sewage sludge from your facility fired in a sewage sludge incinerator: _____ dry metric tons
- b. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired?
_____ Yes _____ No
- If "No", answer questions c - g for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to more than one sewage sludge incinerator, attach additional pages as necessary.
- c. Incinerator name or number: _____
- d. Contact person: _____
Title: _____
Phone: (_____) _____
Contact is: _____ Incinerator Owner _____ Incinerator Operator
- e. Mailing address:
Street or P.O. Box: _____
City or Town: _____ State: _____ Zip: _____
- f. Total dry metric tons per 365-day period of sewage sludge from your facility fired in this sewage sludge incinerator: _____ dry metric tons
- g. List on this form or an attachment the numbers of all other federal, state or local permits that regulate the firing

FACILITY NAME: Pembroke STP

VPDES PERMIT NUMBER: VA0088048

of sewage sludge at this incinerator:

Permit Number: _____ Type of Permit: _____

10. Disposal in a Municipal Solid Waste Landfill.

(Complete Question 10 if sewage sludge from your facility is placed on a municipal solid waste landfill. Provide the following information for each municipal solid waste landfill on which sewage sludge from your facility is placed. If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as necessary.)

- a. Landfill name: New River Resource Authority
- b. Contact person: John Jordan
Title: Operations Engineer
Phone: (540) 674-1677
Contact is: _____ Landfill Owner ☒ Landfill Operator
- c. Mailing address:
Street or P.O. Box: P.O. Box 1246
City or Town: Dublin State: VA Zip: 24084
- d. Landfill location.
Street or Route #: 7100 Cloyd's Mountain Road
County: Pulaski
City or Town: Dublin State: VA Zip: 24084
- e. Total dry metric tons per 365-day period of sewage sludge placed in this municipal solid waste landfill:
approval for 120 dry metric tons
- f. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the operation of this municipal solid waste landfill:
Permit Number: _____ Type of Permit: _____
548 DEQ Solid Waste Permit
- g. Does sewage sludge meet applicable requirements in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq., concerning the quality of materials disposed in a municipal solid waste landfill?
☒ Yes ☐ No
- h. Does the municipal solid waste landfill comply with all applicable criteria set forth in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq.? ☒ Yes ☐ No
- i. Will the vehicle bed or other container used to transport sewage sludge to the municipal solid waste landfill be watertight and covered? ☒ Yes ☐ No
Show the haul route(s) on a location map or briefly describe the route below and indicate the days of the week and time of the day sewage sludge will be transported. SEE ATTACHMENT D

ATTACHMENT A

VICINITY MAP

TOWN OF PEMBROKE MAP KEY

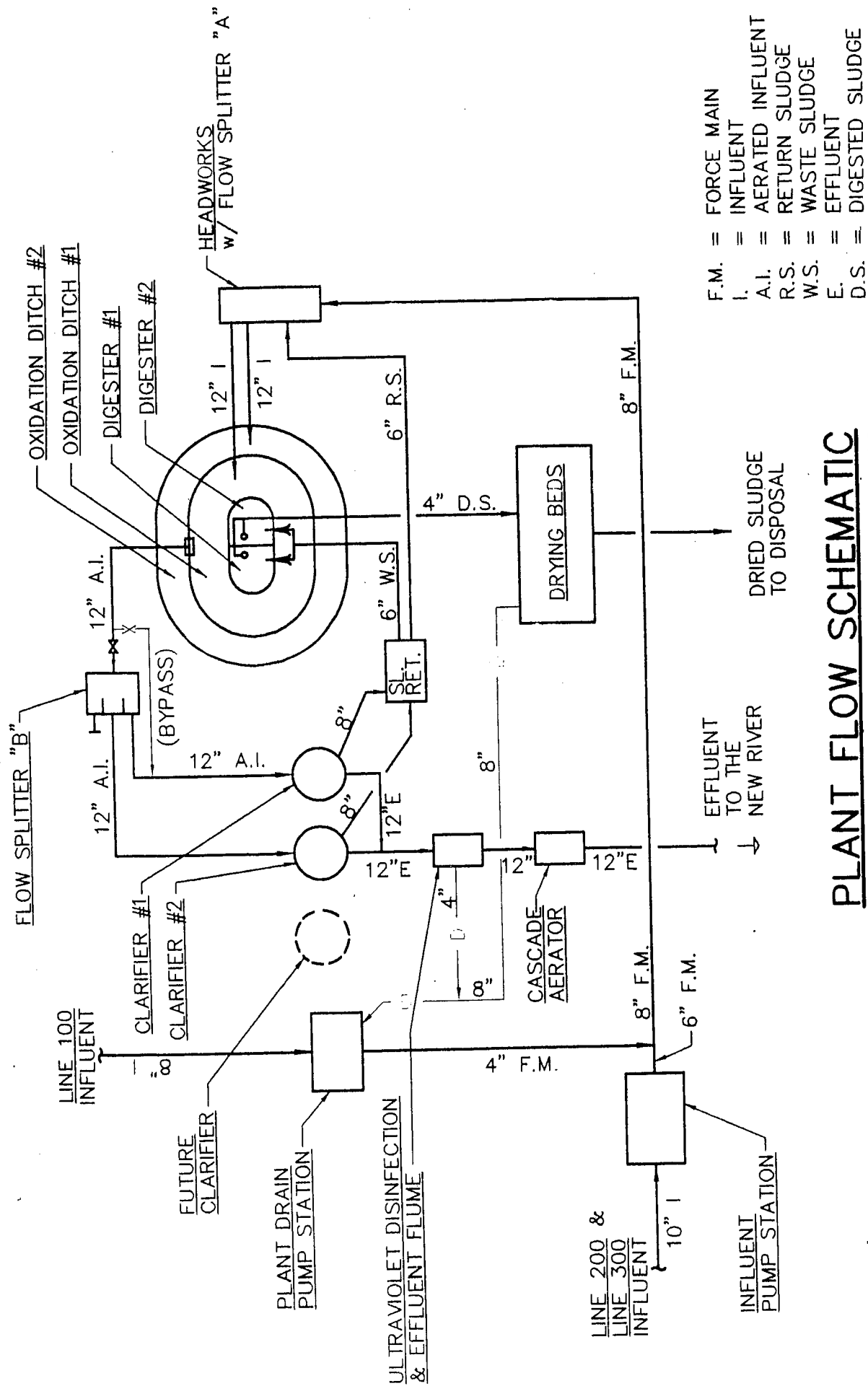
1. Treatment Plant.
2. Discharge.
3. The New River.
4. Closest residence to Treatment Plant.
5. Closest recreation to the Treatment Plant.
6. Closest downstream community.
7. Closest recreational area to the discharge.

The following do not apply:

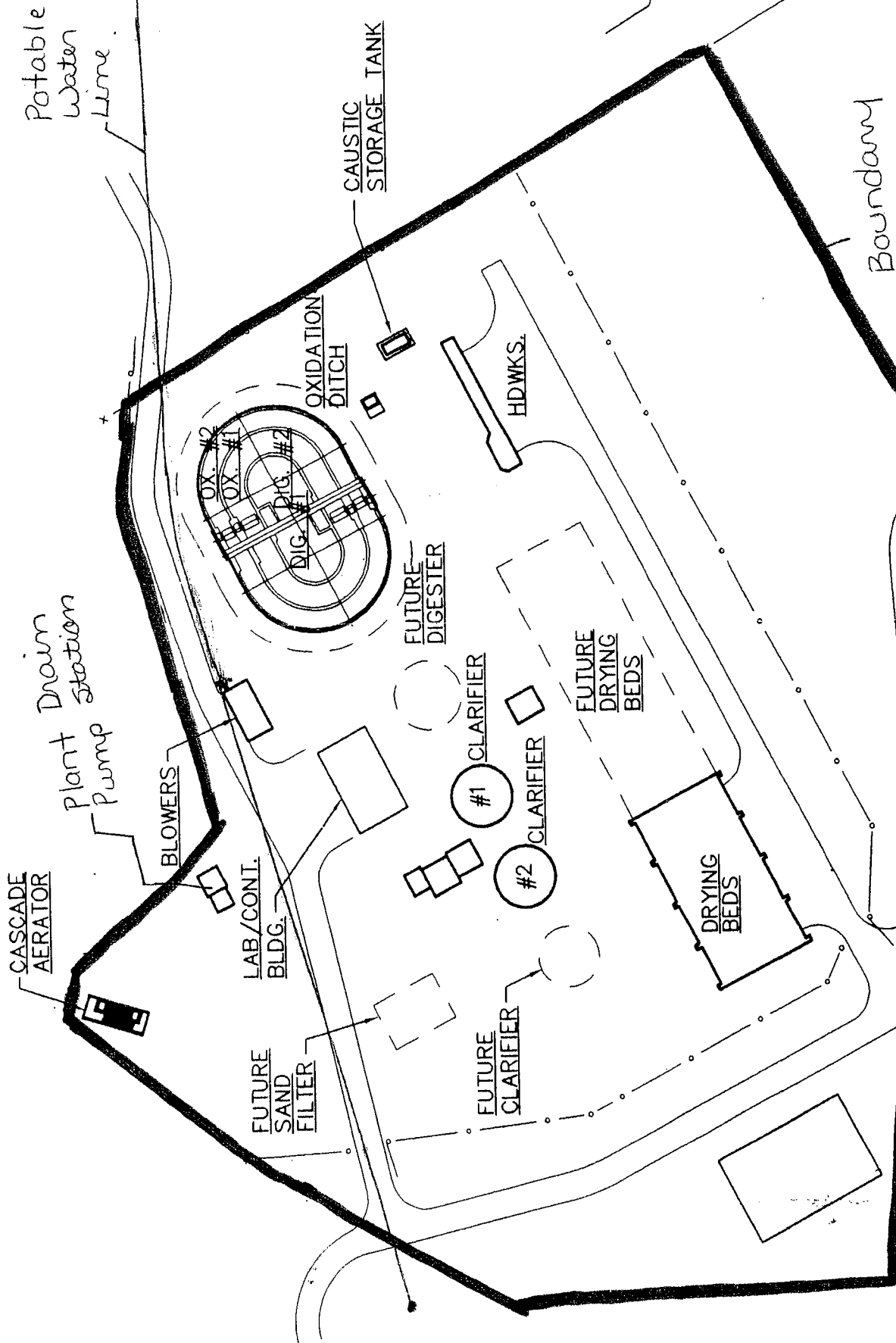
1. Wells where wastewater is injected underground.
2. Drinking water wells located within one quarter of a mile from the property.
3. Hazardous waste under the RCRA.
4. Upstream and downstream water intake points.
5. Shell fishing waters.
6. Wetlands area.
7. Downstream impoundment.

ATTACHMENT B

PROCESS SCHEMATIC & NARRATIVE



PLANT FLOW SCHEMATIC
 FIGURE 05000-1 N.T.S



SITE LAYOUT

04000-1

NTS

Process Flow Diagram

The following hydraulic loading rates are based on data collected from December 2002:

Average Influent Flow = 54,811 gallons per day

Average Clarifier Flow (influent + RAS) = 153,627 gallons per day

Average WAS Flow = 747 gallons per day

Total to Drying Beds = 18,000 gallons per month

Average to Ultraviolet = 54,064 gallons per day

Average Discharge = 54,064 gallons per day

SUBSECTION 05001 OPERATIONAL NARRATIVE

The following narrative is to give the reader an understanding of the recommended treatment process of the wastewater treatment plant during normal operation. A Reliability Class II is assigned to this facility and a description from the Wastewater Regulations is as follows:

Sewerage systems or treatment works whose location or discharge, or potential discharge, due to its volume or character, would not permanently or unacceptably damage or affect the receiving waters or public health during periods of short-term operations interruptions, but could be damaging if continued interruption of normal operation were to exceed 24 hours

The operator should be concerned about the stream pollution and possible effect of public health involved during a power outage. If the power outage continues for more than 18 hours the operator should seriously consider obtaining an emergency generator if he anticipates the power loss to be more than 24 hours. A portable diesel powered pump is available for use of the pump stations. The operator should develop a plan of action before the need arises. Emergency operating procedures and process control variables will be given in subsequent subsections for each individual unit. The treatment plant is designed for a modified extended aeration, activated sludge process utilizing the oxidation ditch.

Wastewater is delivered to the treatment plant by the sewerage collection system. The collection system serves the Town of Pembroke. Sewage intercepted by the collector system flows to the influent pump station and plant drain pump station wet wells. The sewage is pumped to the headworks structure where treatment begins. At the headworks structure, large solids are cut into small particles by a comminutor. A bypass bar screen channel is provided to allow for maintenance to the comminutor. After comminution, the wastewater flows to the grit-removal channel. Grit accumulates on the bottom channel and is removed by a chain and bucket scrapper that deposits grit in a container for ultimate disposal. The comminutor and grit collector are controlled by Hand-Off (H-O) switches. Grit removal from the back up bypass channel is accomplished by manual labor. Following grit removal, the wastewater flows by gravity to the oxidation ditch. The oxidation ditch is divided into two channels and can be operated in parallel or series flow paths. Either mode of operation is achieved at Flow Splitter 'A' by adjusting the hand wheel operated slide gates to balance the flow through the Parshall flumes. Thus the sewage flow can be split equally between the two aeration channels or all can be sent to either one. Normal operation is to allow the wastewater to flow through each channel in series. Flow circulation is achieved by the rotation of the brush aerators. Mixing of the influent and oxygen transfer are provided by two sets of rotating aeration brushes. One crossover port allows for wastewater to flow from channel to channel. The effluent flows from the ditch to Flow Splitter 'B'. This flow splitter provides for dividing the flow evenly to the two secondary clarifiers or directing all the flow to just one clarifier. An adjustable rectangular weir gate with staff gauge

is provided in each channel of the flow splitter to allow for manual measurement of the flow. Effluent from Flow Splitter 'B' goes directly to the secondary clarifiers by gravity. Mixed liquor enters the clarifier through a circular feed well in the center of the clarifier which effectively dissipates its entering velocity. The clarified effluent leaves the feedwell at its bottom in a uniform radial pattern and flows upward and outward to the effluent overflow weir. The effluent overflows a V-notched weir extending around the outside of the tank into a collection launder. Sufficient time has been allowed in the sizing of the mechanism so that the solids in the influent well settle out to the tank bottom along a flow path from feedwell to outer wall. Settled solids are moved to the center of the clarifier by the rotating collector arm, with bottom scraping squeegees, where the solids are collected in the sludge concentrator pocket. This sludge is then discharged through a low velocity pipe, controlled by a telescoping valve, to the sludge return pump station. By increasing or decreasing the telescopic valve elevation the sludge flow is increased or decreased by the change in head pressure from the clarifiers. The rotating surface skimmer collects floating solids and deposits this material in the scum trough. An automatic scum trough flushing device is tripped each time the surface skimmer passes. The flushing provides a small amount of clarifier water to carry the collected scum to the telescoping valve pit. The scum is combined with sludge from the clarifiers and pumped either as return sludge to the oxidation ditch or as waste sludge to the digester.

The sludge return pumps are located in the pump station wetwell. Two submersible centrifugal sewage pumps move the sludge from the clarifiers to the oxidation ditch or the digesters. In normal operation, the pumps alternate run cycles and operate in response to the liquid level in the sludge wetwell. A telescoping valve pit is provided at the sludge return pump station to control the sludge draw-off rate from the clarifiers. Sludge is directed to the oxidation ditch or to the digesters by opening the appropriate valve in the valve vault adjacent to the pump station. Return sludge is pumped to the head works structure and can be directed to either or both of the two oxidation ditch channels. During series flow, with influent wastewater entering channel 2, sludge return should be directed to channel 2. The sludge pumps are controlled automatically by a liquid level control system located in the pump station. Sludge return rates to the oxidation ditch and sludge wasting rates to the digester are measured by inline, ultrasonic, Doppler flow sensors.

Effluent from the clarifiers flows to the ultraviolet channels for disinfection. The effluent enters a splitter/isolator and is directed through the two UV light disinfection channels where it is exposed to intense ultraviolet light. The UV light kills the active microorganisms. The effluent then flows through a Parshall flume to measure the volume of water being discharged to the receiving stream.

Prior to discharge, the oxygen level of the effluent must be raised. The cascade aerator serves this purpose. The effluent is tumbled down a series of weirs and shallow pools to create turbulence. The turbulence mixes the effluent and air. The result is an increase in the dissolved oxygen content of the effluent. The effluent is then piped by gravity to the New River for discharge.

Two aerobic digesters are provided for further digestion of organics. Waste sludge from the clarifiers is sent to the digester by operation of the telescoping valves and pumps at the sludge return pump station. Sludge can be wasted to one or both of the digesters by operation of valves at each digester. Stabilized sludge is dewatered on one of four (800 ft²) drying beds.

Figure 05000-1 illustrates the plant flow from influent to effluent.

ATTACHMENT C

SPECIAL CONDITIONS TO PERMIT VA 0088048
"ATTACHMENT A" TESTING



Improving the environment, one client at a time...

225 Industrial Park Drive
Beaver, WV 25813
TEL: 304.255.2500
FAX: 304.255.2572
Website: www.reiclabs.com

Report Narrative

Project Manager:: Joy Mullins

WO#: 0704252

Date: 4/16/2007

CLIENT: TOWN OF PEMBROKE
Project: ATTACHEMENT A

REI Consultants, Inc. attests to the validity of the laboratory data generated and reported herein. All analyses performed were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. REIC technical directors have reviewed the data for compliance with the laboratory Quality Control Program, and data have been found to be compliant with laboratory protocols unless otherwise noted in this case narrative. Any deviations from normal protocol will be discussed in this narrative and/or qualified within the Analytical Results utilizing an alphanumeric character which is explained at the bottom of each Analytical Results page.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Samples were analyzed using the methods stated in the analytical report without modification unless otherwise noted.

Analytical methods contained in this report referencing Standard Methods are taken from the 18th Edition.

All samples analyzed on an "as-received" basis unless otherwise noted in the analytical report.

Following standard laboratory protocol, sample preservation, such as pH, is verified at time of extraction or analysis based on client requested parameters. Improper preservation is noted on the analytical bench sheet, extraction log, or preservation log and client is notified by close of following business day. All results are reported using preservation compliant samples unless otherwise noted in the analytical report.

In compliance with federal guidelines and standard operating procedures, all reports, including raw data and supporting quality control, will be disposed of after five years unless otherwise arranged by the client via written notification or contract requirement.

REI Consultants, Inc.
Analytical Results

Date: 25-Jun-08

CLIENT: TOWN OF PEMBROKE
Client Sample ID: 001 GRAB
Project: ATTACHEMENT A
Site ID: VA 0088048

WorkOrder: 0704252
Lab ID: 0704252-01A
Collection Date: 4/4/2007 10:00:00 AM
Matrix: WASTE WATER

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
DISSOLVED METALS BY ICP-MS			E200.8			Analyst: DBB	
Antimony	ND	mg/L		0.0010	NA	04/09/07 12:00 AM	04/10/07 11:35 AM
SEMIVOLATILE ORGANIC COMPOUNDS			E625			Analyst: CLS	
Acenaphthene	ND	mg/L		0.0104	NA	04/11/07 11:02 AM	04/12/07 8:06 PM
Butyl benzyl phthalate	ND	mg/L		0.0104	NA	04/11/07 11:02 AM	04/12/07 8:06 PM
2-Chlorophenol	ND	mg/L		0.0104	NA	04/11/07 11:02 AM	04/12/07 8:06 PM
Di-n-butyl phthalate	ND	mg/L		0.0104	NA	04/11/07 11:02 AM	04/12/07 8:06 PM
2,4-Dichlorophenol	ND	mg/L		0.0104	NA	04/11/07 11:02 AM	04/12/07 8:06 PM
Diethyl phthalate	ND	mg/L		0.0104	NA	04/11/07 11:02 AM	04/12/07 8:06 PM
2,4-Dimethylphenol	ND	mg/L		0.0104	NA	04/11/07 11:02 AM	04/12/07 8:06 PM
Fluorene	ND	mg/L		0.0104	NA	04/11/07 11:02 AM	04/12/07 8:06 PM
Nitrobenzene	ND	mg/L		0.0104	NA	04/11/07 11:02 AM	04/12/07 8:06 PM
1,2,4-Trichlorobenzene	ND	mg/L		0.0104	NA	04/11/07 11:02 AM	04/12/07 8:06 PM
VOLATILE ORGANIC COMPOUNDS			SW8021B			Analyst: M	
m,p-Xylene	ND	µg/L		2.00	NA		04/09/07 4:55 PM
o-Xylene	ND	µg/L		1.00	NA		04/09/07 4:55 PM
VOLATILE ORGANIC COMPOUNDS			E624			Analyst: AS	
1,1-Dichloroethene	ND	µg/L		5.0	NA		04/09/07 11:37 AM
HYDROGEN SULFIDE			E376.1			Analyst: LK	
Hydrogen Sulfide	1.40	mg/L		1.00	NA		04/06/07 3:00 PM

Key: MCL Maximum Contaminant Level
 MDL Minimum Detection Limit
 NA Not Applicable
 ND Not Detected at the PQL or MDL
 PQL Practical Quantitation Limit
 TIC Tentatively Identified Compound, Estimated Concentration

Qualifiers: B Analyte detected in the associated Method Blank
 E Estimated Value above quantitation range
 H Holding times for preparation or analysis exceeded
 S Spike/Surrogate Recovery outside accepted recovery limits
 * Value exceeds Maximum Contaminant Level

REI Consultants, Inc.**Analytical Results****Date:** 25-Jun-08**CLIENT:** TOWN OF PEMBROKE**WorkOrder:** 0704252**Client Sample ID:** 001 COMP**Lab ID:** 0704252-02A**Project:** ATTACHEMENT A**Collection Date:** 4/4/2007 10:00:00 AM**Site ID:** VA 0088048**Matrix:** WASTE WATER

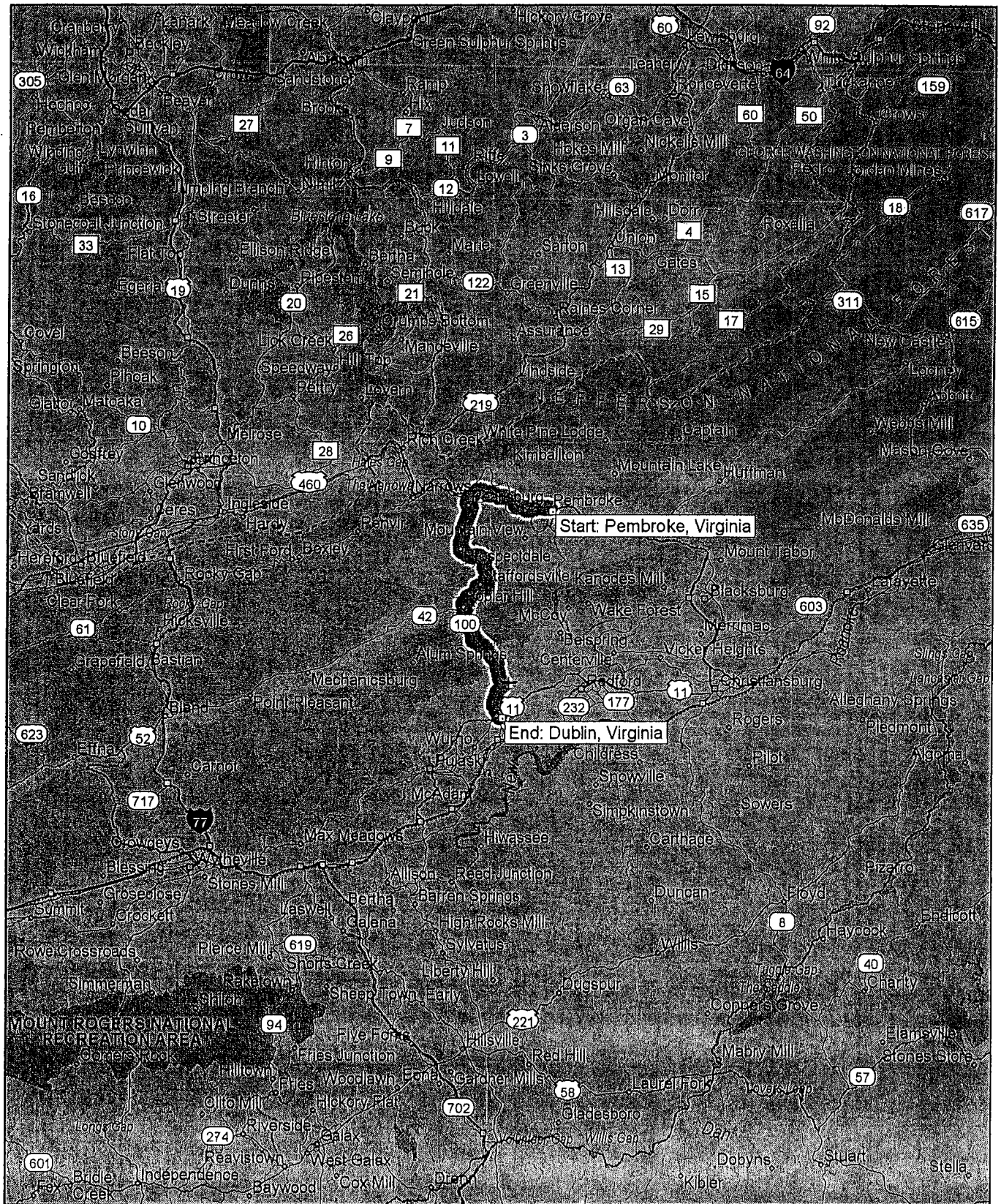
Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
HARDNESS			SM2340 B			Analyst: JD	
Hardness, Total (As CaCO3)	53.8	mg/L		1.00	NA	04/09/07 12:00 AM	04/09/07 10:27 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank	
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range	
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded	
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery outside accepted recovery limits	
	PQL	Practical Quantitation Limit		*	Value exceeds Maximum Contaminant Level	Page 3 of 3
	TIC	Tentatively Identified Compound, Estimated Concentration				

ATTACHMENT D

SLUDGE HAULING ROUTE

Pembroke, VA tp NRRA Landfill



Microsoft Expedia
TripPlanner98

Total Distance : 28.4 miles
Total Driving Time : 47 minutes
Journey Cost : \$1.42

Departing: Pembroke, Virginia Arriving: Dublin, Virginia

<i>Time</i>	<i>Distanc</i>	<i>Instruction</i>	<i>Road</i>	<i>For</i>	<i>Dir</i>	<i>Toward</i>
9:00 AM	0.0	Depart Pembroke, Virginia	Local road(s)	91 yds	N	
9:00 AM	0.1	Turn left onto	US-460	6.0 mi	W	West Virginia
9:07 AM	6.1	Turn left onto	SR-634	744 yds	S	
9:08 AM	6.5	Bear left onto	Curve Rd	0.7 mi	S	
9:10 AM	7.2	Turn right onto	US-460	248 yds	W	
9:11 AM	7.3	At Pearisburg, turn left onto	SR-100	20.9 m	S	
9:47 AM	28.3	At Dublin, turn left onto	US-11	206 yds	NE	Radford
9:47 AM	28.4	Turn left onto	Local road(s)	51 yds	W	
9:47 AM	28.4	Arrive Dublin, Virginia				